

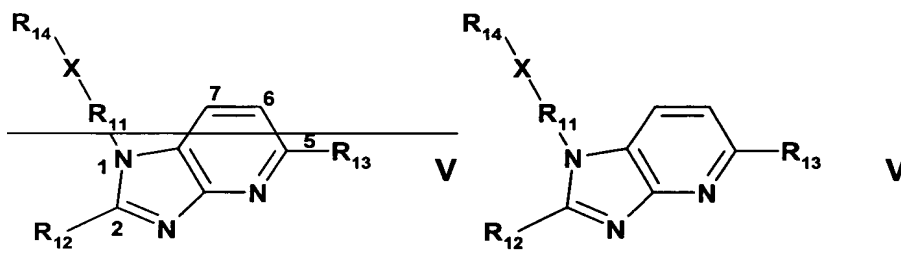
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 5. (Cancelled).

Claim 6. (Currently amended) A compound according to formula V in free or pharmaceutically acceptable salt form



wherein

R₁₁ is pyrimidyl;

X is -NR₆-Y-, -O- or -S-,

wherein R₆ is H, C₁-C₄alkyl, C₆-C₁₈aryl, C₃-C₁₈heteroaryl, C₇-C₁₉aralkyl or C₄-C₁₉heteroaralkyl, and -Y- is C₁-C₄alkylene or a direct bond;

R₁₂ is phenyl, optionally substituted by one or more substituents, each of which is independently selected from

halo,

CF₃,

cyano,

amido or thioamido which is optionally mono- or di-N-substituted by C₁-C₄alkyl or the N atom of which forms a 5-7 membered heterocyclic ring optionally containing an additional hetero atom selected from O, S or N which N is optionally C₁-C₄alkyl C₁-C₄alkylcarbonyl or C₁-C₄alkylthiocarbonyl substituted,

carboxylate or thiocarboxylate optionally in the form of an optionally halo-substituted C₁-C₁₀alkoxy, C₂-C₁₀alkenoxy, C₂-C₁₀alkynoxy, C₃-C₇cyclalkoxy, C₅-C₇cycloalkenoxy, aryloxy, arylalkoxy, heteroaryloxy or heteroarylalkoxy ester, optionally mono- or di-C₁-C₄alkyl-substituted-C₀-C₁alkyl optionally C₁-C₄alkyl- or C₃-C₅cycloalkyl-substituted-carbonyl or -thiocarbonyl,

optionally halo-substituted-C₁-C₄alkoxy, C₂-C₄alkenoxy, C₂-C₄alkynoxy, C³₃-C⁶₅cycloalkoxy or C³₃-C⁵₅cyclothioalkoxy,

optionally halo substituted C₁-C₄ alkyl,

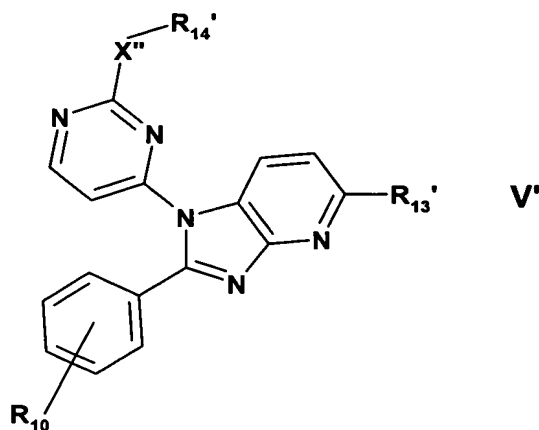
oxycarbonyl or optionally N-C₁-C₄alkyl-substituted aminocarbonyl both of which are optionally C₁-C₄alkyl or C₃-C₅cycloalkyl substituted (including thiocarbonyl analogues thereof),
 optionally mono- or di-C₁-C₄alkyl-substituted -C₀-C₁alkylamine which is optionally mono- or di-N-C₁-C₄ alkyl substituted,
 optionally mono- or di-C₁-C₄alkyl-substituted-C₀-C₁alkyl optionally N-C₁-C₄alkyl-substituted amino-carbonyl or -thiocarbonyl,
 optionally N-C₁-C₄ alkyl-substituted amino-sulphinyl or -sulphonyl optionally substituted by
 optionally mono- or -di-N-C₁-C₄alkyl-substituted amino,
 a nitrogen atom which form a heterocyclic ring of 5 to 7 members optionally containing an additional heteroatom selected from O, S or N which N is optionally C₁-C₄ alkyl C₁-C₄alkylcarbonyl or C₁-C₄alkylthiocarbonyl substituted, or
 sulphinyl or sulphonyl optionally substituted by
 optionally halo-substituted-C₁-C₄alkyl, C₂-C₄ alkenyl, C₂-C₄ alkynyl,
 optionally mono- or di-N-C₁-C₄alkyl-substituted amino,
 a nitrogen atom which form a heterocyclic ring of 5 to 7 members optionally containing an additional heteroatom selected from O, S or N which N is optionally C₁-C₄alkyl C₁-C₄alkylcarbonyl or C₁-C₄alkylthiocarbonyl substituted;

R₁₃ is H, amino, C₁-C₁₀alkyl, C₃-C₁₀cycloalkyl, C₃-C₁₈heterocycloalkyl, C₆-C₁₈aryl, or C₃-C₁₈heteroaryl all optionally substituted by up to 4 substituents separately selected from C₁-C₄alkyl, halogen, halo-substituted-C₁-C₄alkyl, hydroxyl, C₁-C₄alkoxy, C₁-C₄alkylthio, C₆-C₁₈aryl, C₃-C₁₈heteroaryl, C₆-C₁₈arylC₁-C₄alkyl, C₃-C₁₈heteroarylC₁-C₄alkyl, C₃-C₁₈heterocycloalkyl or optionally mono- or di-N-C₁-C₄alkyl substituted amino all of which are optionally substituted by halo, hydroxyl, C₁-C₄alkyl, C₁-C₄alkoxy or C₁-C₄alkoxycarbonyl; and

R₁₄ is C₁-C₁₀alkyl, C₆-C₁₈aryl, C₃-C₁₈heteroaryl, or C₃-C₁₂cycloalkyl optionally substituted by up to 3 substituents separately selected from C₁-C₄alkyl, halogen, halo-substituted-C₁-C₄alkyl, hydroxyl, C₁-C₄alkoxy, C₁-C₄alkylthio, optionally mono- or di-N-C₁-C₄alkyl substituted amino, or by N-heterocyclyl containing from 5 to 7 ring atoms and optionally containing a further hetero atom selected from O, S or N[[,]]

~~and pharmaceutically acceptable and cleavable esters thereof and acid addition salts thereof.~~

Claim 7. (Currently amended) A compound according to claim 6 of formula V' in free or pharmaceutically acceptable salt form



wherein

R₁₄' is phenyl or C₃-C₇cycloalkyl each of which is optionally mono-substituted by halogen, C₁-C₄alkyl, C₁-C₄alkoxy, hydroxyl, trihalomethyl optionally mono- or di-N-C₁-C₄alkyl substituted amino, or by N-heterocyclyl containing from 5 to 7 ring atoms and optionally containing a further hetero atom selected from O, S or N;

R₁₀ is halogen, CF₃, C₁-C₄alkyl or C₁-C₄alkoxy;

R₁₃' is pyridyl, pyrimidyl, piperazinyl, piperidinyl, NR₉R₁₀, -CH₂OH, CH₂NR₁₅R₁₆, -CH₂CH₂R₁₅R₁₆, or Het-C₁-C₄alkyl-,

wherein

R₉ and R₁₀ are separately selected from H, C₁-C₄alkyl, C₆-C₁₈aryl, C₃-C₁₈ heteroaryl, C₆-C₁₈aryl(C₁-C₄alkyl), C₃-C₁₈heteroaryl(C₁-C₄alkyl) all of which are optionally substituted by halo, hydroxyl, C₁-C₄alkyl, C₁-C₄alkoxy, C₁-C₄alkoxycarbonyl[[.]] ;

~~R₁₄' and R₁₂' are separately selected from H or C₁-C₆alkyl, and~~

~~Het is N-heterocyclyl containing from 5 to 7 ring atoms and optionally containing a further hetero atom (e.g. O, S or N)~~ is a N-heterocyclyl containing from 5 to 7 ring atoms where said ring atoms optionally containing a further heteroatom selected from the group consisting of O, S, and N;

R₁₅ and R₁₆ are independently selected from H and C₁-C₄ alkyl;

~~X'' is -NH-Y', -O- or -S-, where Y' is 'CH₂-, -CH₂-CH₂-, -CH₂(CH₃)- or a direct bond, and pharmaceutically acceptable and cleavable esters thereof and acid addition salts thereof.~~

Claim 8. (Currently amended) A compound according to claim 6 selected from:

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(piperidino-N-2-ethyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(N,N-diethylamino-N-2-ethyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(morpholino-N-2-ethyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(isopropylamino-N-2-ethyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(pyrrolidino-N-2-ethyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(3-pyridyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(4-pyridyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-(S)-phenylethyl)amino-4-pyrimidinyl)-5-(aminoimidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(aminoimidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-(S)-phenylethyl)amino-4-pyrimidinyl)-5-(4-NH-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(4-NH-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclobutylamino-4-pyrimidinyl)-5-(4-NH-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopropylamino-4-pyrimidinyl)-5-(4-NH-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-(S)-phenylethyl)amino-4-pyrimidinyl)-5-(4-methyl-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(4-methyl-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclobutylamino-4-pyrimidinyl)-5-(4-methyl-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopropylamino-4-pyrimidinyl)-5-(4-methyl-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-(S)-phenylethyl)amino-4-pyrimidinyl)-5-(4-(2-hydroxy-2-methyl)propyl-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-((4-(2-hydroxy-2-methyl)propyl-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclobutylamino-4-pyrimidinyl)-5-((4-(2-hydroxy-2-methyl)propyl-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopropylamino-4-pyrimidinyl)-5-((4-(2-hydroxy-2-methyl)propyl-1-piperazinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(4-piperidinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(1-methyl-4-piperidinyl)imidazo[4,5-b]pyridine;

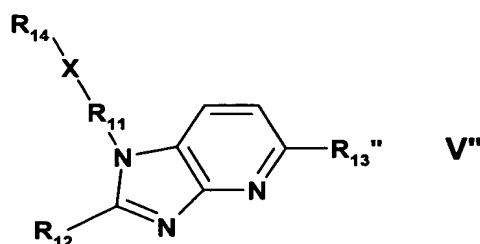
2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(1-(2-hydroxy-2-methyl)propyl-4-piperidinyl)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(benzylamino)imidazo[4,5-b]pyridine;

2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(morpholino)imidazo[4,5-b]pyridine;
 2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(3-fluorophenyl amino)imidazo[4,5-b]pyridine;
 2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(pyridyl-4-amino)imidazo[4,5-b]pyridine;
 2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(1-ethoxycarbonyl piperidine-4-amino)imidazo[4,5-b]pyridine; and
 2-(4-Fluorophenyl)-1-(2-cyclopentylamino-4-pyrimidinyl)-5-(piperidine-4-amino)imidazo[4,5-b]pyridine[;].

Claim 9. (Currently amended) A process for the production of

(i) ~~an Agent of the Invention~~ a compound of formula V'' in free or pharmaceutically acceptable salt form



wherein

R₁₁ is pyrimidyl[;];

R₁₂[;] is phenyl, optionally substituted by one or more substituents, each of which is independently selected from

halo,

CF₃,

cyano,

amido or thioamido which is optionally mono- or di-N-substituted by C₁-C₄alkyl or the N atom of which forms a 5-7 membered heterocyclic ring optionally containing an additional hetero atom selected from O, S or N which N is optionally C₁-C₄alkyl C₁-C₄alkylcarbonyl or C₁-C₄alkylthiocarbonyl substituted,

carboxylate or thiocarboxylate optionally in the form of an optionally halo-substituted C₁-C₁₀alkoxy, C₂-C₁₀alkenoxy, C₂-C₁₀alkynoxy, C₃-C₇cyclalkoxy, C₅-C₇cycloalkenoxy, aryloxy, arylalkoxy, heteroaryloxy or heteroarylalkoxy ester, optionally mono- or di-C₁-C₄alkyl-substituted-C₀-C₁alkyl optionally C₁-C₄alkyl- or C₃-C₅cycloalkyl-substituted-carbonyl or -thiocarbonyl,

optionally halo-substituted-C₁-C₄alkoxy, C₂-C₄alkenoxy, C₂-C₄alkynoxy, C₃-C₅cycloalkoxy or C₃-C₅cyclothioalkoxy,

optionally halo substituted C₁-C₄ alkyl,

oxycarbonyl or optionally N-C₁-C₄alkyl-substituted aminocarbonyl both of which are optionally C₁-C₄alkyl or C₃-C₅cycloalkyl substituted (including thiocarbonyl analogues thereof),

optionally mono- or di-C₁-C₄alkyl-substituted -C₀-C₁alkylamine which is optionally mono- or di-N-C₁-C₄ alkyl substituted,

optionally mono- or di-C₁-C₄alkyl-substituted-C₀-C₁alkyl optionally N-C₁-C₄alkyl-substituted amino-carbonyl or -thiocarbonyl,

optionally N-C₁-C₄ alkyl-substituted amino-sulphinyl or -sulphonyl optionally substituted by optionally mono- or -di-N-C₁-C₄alkyl-substituted amino,

a nitrogen atom which form a heterocyclic ring of 5 to 7 members optionally containing an additional heteroatom selected from O, S or N which N is optionally C₁-C₄ alkyl C₁-C₄alkylcarbonyl or C₁-C₄alkylthiocarbonyl substituted, or sulphinyl or sulphonyl optionally substituted by

optionally halo-substituted-C₁-C₄alkyl, C₂-C₄ alkenyl, C₂-C₄ alkynyl,

optionally mono- or di-N-C₁-C₄alkyl-substituted amino,

a nitrogen atom which form a heterocyclic ring of 5 to 7 members optionally containing an additional heteroatom selected from O, S or N which N is optionally C₁-C₄alkyl C₁-C₄alkylcarbonyl or C₁-C₄alkylthiocarbonyl substituted;

R₁₄ is C₁-C₁₀alkyl, C₆-C₁₈aryl, C₃-C₁₈heteroaryl, or C₃-C₁₂cycloalkyl optionally substituted by up to 3 substituents separately selected from C₁-C₄alkyl, halogen, halo-substituted-C₁-C₄alkyl, hydroxyl, C₁-C₄alkoxy, C₁-C₄alkylthio, optionally mono- or di-N-C₁-C₄alkyl substituted amino, or by N-heterocyclyl containing from 5 to 7 ring atoms and optionally containing a further hetero atom selected from O, S or N and ;

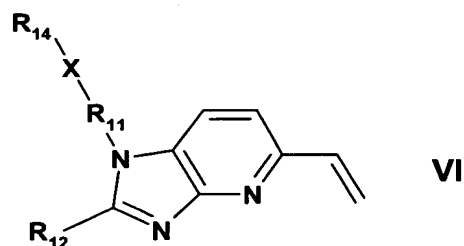
X is -NR₆-Y-, -O- or -S-, wherein R₆ is H, C₁-C₄alkyl, C₆-C₁₈aryl, C₃-C₁₈heteroaryl, C₇-C₁₉aralkyl or C₄-C₁₉heteroaralkyl, and -Y- is C₁-C₄alkylene or a direct bond;
are as previously defined and

R₁₃" is -CH₂-CH₂NR₁₅R₁₆ or - CH₂-CH₂-Het wherein

R₁₅[[,]] and R₁₆ are independently selected from H and C₁-C₄ alkyl; and

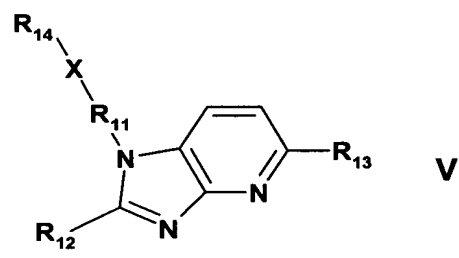
Het are as previously defined is a N-heterocyclyl containing from 5 to 7 ring atoms where said ring atoms optionally containing a further heteroatom selected from the group consisting of O, S, and N;

comprising reacting a corresponding vinyl precursor of formula VI

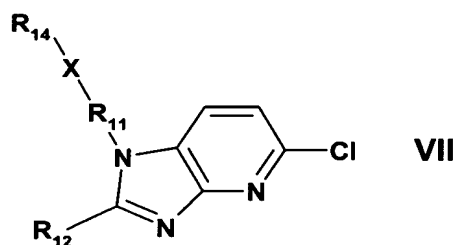


wherein R₁₁, R₁₂, R₁₄ and X are as previously defined with the corresponding amine of formula HNR₁₅R₁₆ or N-heterocycloalkyl ring compound;

- (ii) ~~an Agent of the Invention~~ a compound of formula V according to claim 6



wherein R₁₃ is aryl or heteroaryl comprising arylation or heteroarylation of a compound of formula VII



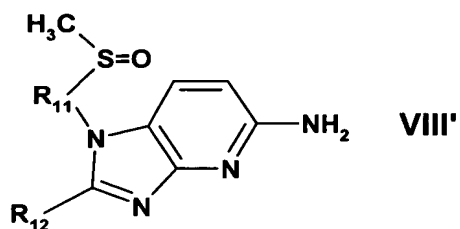
wherein R₁₁, R₁₂, R₁₄ and X are as previously defined in claim 6;

- (iii) ~~an Agent of the Invention~~ a compound of formula V according to claim 6

wherein R₁₃ is -N-heterocycloalkyl, -NH-aryl, -NH-heteroaryl, -NH-heterocycloalkyl, -NH-(C₁-C₄alkyl)-heterocycloalkyl, -NH-(C₁-C₄alkyl)-aryl, -NH-(C₁-C₄alkyl)-heteroaryl, or -NH-(C₁-C₄alkyl)-heterocycloalkyl comprising coupling a corresponding chloroprecursor compound of formula VII, as defined above, with the corresponding N-heterocycloalkyl compound or amine;

- (iv) ~~an Agent of the Invention~~ a compound of formula V according to claim 6

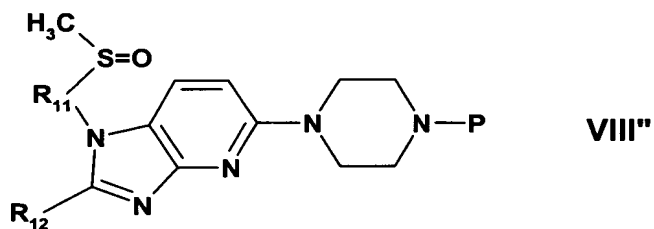
in which R₁₃ is -NH₂, comprising reacting the corresponding methyl sulfinyl compound of formula VIII'



wherein R₁₁ and R₁₂ are as previously defined in claim 6;

(v) ~~an Agent of the Invention~~ a compound of formula V according to claim 6

in which R₁₃ is piperaziny, comprising reacting a corresponding methylsulphonyl compound of formula VIII''



wherein R₁₁ and R₁₂ are as previously defined in claim 6 and P is an N protecting group, with the corresponding amine of formula R₁₄-NH₂; and

(vi) recovering the resultant compounds of formula (V'') or (V) in free or pharmaceutically acceptable salt form.

Claims 10 - 13. (Cancelled).